## **CLAIMS**

What is claimed is:

- 1 1. A power amplifier comprising:
- 2 a first switching device connected between a first supply voltage and a first output node;
- 3 a second switching device connected between a second supply voltage and a second
- 4 output node; and
- 5 an inductance coupled between the first and second output nodes.
- 1 2. The power amplifier of claim 1, wherein a load is coupled to the second output
- 2 node.
- 1 3. The power amplifier of claim 1, further comprising a first capacitor coupled to the
- 2 first output node, and a second capacitor coupled to the second output node.
- 1 4. The power amplifier of claim 1, further comprising a first capacitor coupled to the
- 2 first output node.
- 1 5. The power amplifier of claim 1, further comprising a first capacitor coupled
- 2 between the first and second output nodes.
- 1 6. The power amplifier of claim 1, wherein the first and second switching devices
- 2 are driven by signals that repeatedly turn the devices on and off.

- 1 7. The power amplifier of claim 6, wherein the first and second switching devices
- 2 are both cycled on during the same time period, and wherein the first and second
- 3 switching devices are both cycled off during the same time period.
- 1 8. The power amplifier of claim 4, wherein the first capacitor is provided by the
- 2 input capacitance of a third switching device.
- 1 9. The power amplifier of claim 3, wherein the first capacitor is provided by the
- 2 input capacitance of a third switching device, and wherein the second capacitor is
- 3 provided by the input capacitance of a fourth switching device.
- 1 10. The power amplifier of claim 1, wherein the first and second switching devices
- 2 are comprised of transistors.
- 1 11. The power amplifier of claim 1, wherein the first switching device is comprised of
- 2 a PMOS transistor, and wherein the second switching device is comprised of an NMOS
- 3 transistor.
- 1 12. The power amplifier of claim 1, further comprising a load coupled across the first
- and second output nodes.
- 1 13. The power amplifier of claim 1, further comprising a transformation network
- 2 coupled to the first and second output nodes.

- 1 14. The power amplifier of claim 13, wherein the transformation network further
- 2 comprises:
- 3 a capacitor coupled to the first output node and a third node;
- 4 an inductor coupled to the second output node and the third node; and
- 5 a load coupled to the third node.
- 1 15. The power amplifier of claim 1, further comprising a preamplifier connected to
- 2 the power amplifier, the preamplifier further comprising:
- 3 a third switching device connected between said first supply voltage and a third node and
- 4 coupled to the input to the first switching device;
- 5 a fourth switching device connected between said second supply voltage and a fourth
- 6 node and coupled to the input to the second switching device; and
- 7 a second inductor coupled between the third and fourth nodes.
- 1 16. The power amplifier of claim 1, further comprising one or more inductors coupled
- 2 between the first output node and a third supply voltage.
- 1 17. The power amplifier of claim 1, further comprising one or more inductors coupled
- 2 between the first output node and a third supply voltage, and one or more inductors
- 3 coupled between the second output node and a fourth supply voltage.
- 1 18. A method of reducing the peak output voltage of an amplifier comprising the
- 2 steps of:
- 3 providing an inductor having first and second terminals;

- 4 providing a first switching device connected between the first terminal of the inductor
- 5 and a first supply voltage;
- 6 providing a second switching device connected between the second terminal of the
- 7 inductor and a second supply voltage;
- 8 applying a voltage between the first and second terminals of the inductor during a first
- 9 portion of a clock cycle by turning on the first and second switching devices; and
- turning off the first and second switching devices during a second portion of the clock
- 11 cycle.
- 1 19. The method of claim 18, further comprising the steps of providing a first
- 2 capacitance connected to the first terminal, providing a second capacitance connected to
- 3 the second terminal, wherein current from the inductor charges or discharges the first and
- 4 second capacitances during the second portion of the clock cycle.
- 1 20. The method of claim 18, further comprising the step of connecting a load to the
- 2 first node.
- 1 21. The method of claim 18, wherein the load includes a reactive network.
- 1 22. The method of claim 18, further comprising the step of driving the first and
- 2 second switching devices such that the switching devices are turned on and off
- 3 simultaneously.
- 1 23. The method of claim 18, further comprising the step of driving the first and
- 2 second switching devices by repeatedly turning both devices on and then turning both
- 3 devices off.

- 1 24. The method of claim 18, wherein the switching devices are comprised of
- 2 transistors.
- 1 25. The method of claim 18, further comprising the step of differentially connecting a
- 2 load to the first and second nodes.
- 1 26. The method of claim 18, wherein the load is connected across the first and second
- 2 nodes.
- 1 27. The method of claim 18, further comprising the steps of:
- 2 providing a third switching device connected between the gate of the first switching
- device and a third supply voltage;
- 4 providing a fourth switching device connected between the gate of the second switching
- 5 device and a fourth supply voltage; and
- 6 providing a second inductor connected between the gates of the first and second
- 7 switching devices.
- 1 28. A differential power amplifier comprising:
- 2 a first amplifier having a first switching device connected between a first supply voltage
- and a first output node, a second switching device connected between a second
- 4 supply voltage and a second output node, and an inductance coupled between the
- 5 first and second output nodes;
- 6 a second amplifier having a third switching device connected between a third supply
- 7 voltage and a third output node, a fourth switching device connected between a

- 8 fourth supply voltage and a fourth output node, and an inductance coupled
- 9 between the third and fourth output nodes; and
- wherein the first and second amplifiers are coupled together to drive a load.
- 1 29. The differential power amplifier of claim 28, wherein the second and fourth
- 2 output nodes of the first and second amplifiers are coupled together to drive the load.
- 1 30. The differential power amplifier of claim 28, wherein the first, second, third, and
- 2 fourth output nodes of the first and second amplifiers are coupled together to drive the
- 3 load.
- 1 31. The differential power amplifier of claim 28, further comprising:
- 2 a first transformation network connected between the first and second output nodes of the
- 3 first amplifier and the load, and
- 4 a second transformation network connected between the third and fourth output nodes of
- 5 the second amplifier and the load.
- 1 32. The differential power amplifier of claim 28, further comprising:
- 2 a first transformation network connected between the second output node of the first
- 3 amplifier and the load, and
- 4 a second transformation network connected between the third output node of the second
- 5 amplifier and the load.
- 1 33. The differential power amplifier of claim 28 further comprising:
- 2 an inductor coupled between the first output node and the third output node.

- 1 34. The differential power amplifier of claim 28 further comprising:
- 2 an inductor coupled between the second output node and the fourth output node.
- 1 35. The differential power amplifier of claim 31, wherein the first transformation
- 2 network further comprises:
- a first capacitor coupled to the second output node of the first amplifier and coupled to
- 4 the load; and
- 5 a first inductor coupled to the first output node of the first amplifier and coupled to the
- 6 load.
- 1 36. The differential power amplifier of claim 31, wherein the second transformation
- 2 network further comprises:
- 3 a second capacitor coupled to the third output node of the second amplifier and coupled
- 4 to the load; and
- 5 a second inductor coupled to the fourth output node of the second amplifier and coupled
- 6 to the load.
- 1 37. The differential power amplifier of claim 28, wherein the first amplifier receives
- 2 first and second inputs.
- 1 38. The differential power amplifier of claim 37, wherein the first and second
- 2 switching devices of the first amplifier are enabled and disabled simultaneously; and
- 3 wherein the third and fourth switching devices of the second amplifier are enabled and
- 4 disabled simultaneously.

- 1 39. The differential power amplifier of claim 38, wherein the first and second
- 2 switching devices of the first amplifier are enabled during the time that the third and
- 3 fourth switching devices of the second amplifier are disabled, and wherein the third and
- 4 fourth switching devices of the second amplifier are enabled during the time that the first
- 5 and second switching devices of the first amplifier are disabled.
- 1 40. The differential power amplifier of claim 28, wherein the amplifier further
- 2 comprises:
- a first capacitance coupled between the first output node and the first supply voltage;
- a second capacitance coupled between the second output node and the first supply
- 5 voltage; and
- 6 wherein the second amplifier further comprises:
- 7 a third capacitance coupled between the third output node and a third supply voltage;
- a fourth capacitance coupled between the fourth output node and a fourth supply
- 9 voltage.
- 1 41. The differential power amplifier of claim 40, wherein the first, second, third, and
- 2 fourth capacitances are provided by capacitors.
- 1 42. The differential power amplifier of claim 40 wherein the first, second, third, and
- 2 fourth capacitances are provided by the input capacitance of fifth, sixth, seventh, and
- 3 eighth switching devices, respectively.
- 1 43. The differential power amplifier of claim 42, wherein the fifth switching device is
- 2 coupled to the third output node, and the sixth switching device is coupled to the fourth

- 3 output node, and the seventh switching device is coupled to the first output node, and the
- 4 eighth switching device is coupled to the second output node.
- 1 44. The differential power amplifier of claim 28, further comprising a preamplifier for
- 2 each of the first and second power amplifiers.
- 1 45. The differential power amplifier of claim 44, wherein each of the preamplifiers
- 2 further comprise:
- 3 fifth and sixth switching devices connected between the first and second supply voltages;
- 4 and
- 5 a third inductor connected between the fifth and sixth switching devices.
- 1 46. The differential power amplifier of claim 28, wherein the first and second
- 2 amplifiers are cross-coupled.